

Arboricultural Report - evidence to support application

1.0 LOCATION

- Westergate Mews, Nyton Road, Westergate, Chichester PO20 3YP

2.0 TREE DETAILS

- **Species** Holm oak (T11) {*Quercus ilex*}
- **Height** 22m
- **Stem diameter** 520mm at 1.5m above ground level
- **Crown spread** 12m
- **Age class** Mature
- A mature, broadly-spreading, twin-stemmed tree with a wide u-shaped fork at 1.6m and rolls of wood forming a cup union. The stem to the south, extending at 60°, was shortened to a 4m stub in 2019 to reduce the risk of stem failure. The main, upright stem, with 3 main lateral branches at around 6m and 1 to the west at 7.5m, subdivides into three stems at 8.5m. Small-diameter, pendulous branch tips hang low over the access drive and car-parking spaces. The tree is included in tree preservation order **TPO/AL/1/72**.

3.0 APPRAISAL

- On Tuesday 11th August 2020 - in calm conditions - a large, lateral branch extending to the south-west failed at its attachment point with the main stem and collapsed onto parking spaces, vegetation and the boundary fence.
- Inspection of the fracture point identified darker tissue and broken fibres on both the main stem and broken branch on the upper side of the attachment point; newly fractured live tissue at the bottom of the branch attachment point and on the main stem with one small section of newly fractured wood at the top of the attachment point.
- A small-diameter, partially occluded old pruning wound was noted at the attachment point on the upper side of the branch – no decay was present.
- There was no incremental growth at the cambium layer around the entire margin of the fracture point.

4.0 CONCLUSIONS

- The darker (oxidised) tissue at the upper end of the failed branch and attachment point indicate an old fracture and partial failure of the union – dysfunctional but not decayed tissue.
- Lack of any incremental growth at the cambium layer indicates that the partial failure occurred after the last growing season.

- ✦ I believe that partial fracture and failure of the branch attachment point occurred during last winter's storm force winds and that the branch failed completely during this summer's extended hot dry weather due to embrittlement of the remaining attached tissue – the catalyst for collapse probably being the fracture of the small section of live tissue at the upper end of the broken branch.

5.0 COMMENT

- ✦ Mechanical failure of tree stems and branches are natural occurrences and don't necessarily indicate ill-health in trees.
- ✦ The tree is prominent, important in the landscape but in a location where failure represents a risk of injury or damage to property.
- ✦ It is highly likely that further failures will occur during the natural life span of the tree.
- ✦ Pruning to reduce end-loading of branches may reduce – but not remove – that risk.

6.0 RECOMMENDATIONS

- ✦ Shorten very tips of ascending stems and lateral growth around the entire crown - by 2m to 3m - to create a more compact form, reduce end-loading of individual branches and the minimise the risk of further stem or branch failure.

7.0 DETAILS

- ✦ Inspection dates - 12th August 2020 & 3rd February 2021
- ✦ Date of report - 20th February 2021

References

Lonsdale, D. (2005). *Principles of tree hazard assessment and management, third impression*. TSO
Van Prooijen, G-J. (2010). *Urban trees vade mecum – tree inspection and examination*. IPC Groene Ruimte.
Mattheck, C. Bethge, K. Weber, K. (2015). *The body language of trees – encyclopedia of visual tree assessment*. Karlsruhe Institute of Technology.

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